

ABSTRACT

A method for determining a strain hardening property of a pipe enabling reduction of costs while ensuring pipeline integrity is provided. Moreover, a method for manufacturing a pipe based on the method for determining the strain hardening property of the pipe, a pipe manufactured by means of the method for manufacturing the pipe, and a pipeline are proposed. The method for determining the strain hardening property of the pipe according to the present invention includes a step of defining pipe dimensions where a diameter  $D$ , a thickness  $t$ , and a required critical local buckling strain  $\epsilon_{req}$  of the pipe are set as conditions to be satisfied; a step of acquiring a strain hardening property for acquiring the strain hardening property in the vicinity of a buckling point of the pipe satisfying the conditions set in the step of defining the pipe dimensions; and a step of setting the strain hardening property as a condition to be satisfied by the stress-strain curve of the pipe.